

REMARKS

Claims 1-30 are all the claims pending in the application. Claims 1-10 are withdrawn from consideration. Claims 11-30 are rejected. Applicants have amended independent claim 11 in order to better define the features of the invention in a manner that clearly distinguishes over the prior art. New independent claim 31 has been added.

Claim Rejections – 35 USC 102

Claims 11-19 and 24-29 are rejected under 35 USC 102(b) as being anticipated by Wiljan (5,377,917). This rejection is traversed for at least the following reasons.

The Examiner points to the disclosure in Wiljan of a pulping vessel 13 for processing waste paper. The vessel structure referenced by the Examiner includes a central impeller 14 rotating about a vertical axis by force of motor 15 and belt 16. There is a centrally located perforate sieve located at the bottom of the vessel and a lock chamber 18 for removing heavy substances. The Examiner points to a raking device 22 that is associated with the pulping vessel 13 and comprises a tine 23 carried by a support arm. The tine carrier is vertically adjustable and has tines 23' that are adapted to be immersed below the liquid level 24 in the vessel 13 to catch lightweight substances. The Examiner looks to Fig. 4 of Wiljan for an illustration of the movement of the tine carrier 23 from an immersed position (solid lines) to an output position (dotted lines) for dumping light weight materials into a shredder. The pivotal movement is asserted by the Examiner to be about an axis of rotation positioned at an angle to the plane that is vertical to the axis of the pulper vessel, as illustrated in Figs. 2-4.

Claim 11

Claim 11 originally is directed to a “coarse dirt collector apparatus” that comprises a “coarse dirt collector” and a “moving means,” which is a “means-plus-function” limitation having a specified function and movement. In the present amendment, claim 11 has been restructured in accordance with U.S. practice by shifting one feature of the preamble to the body of the claim. Specifically, the pivotable functionality of the coarse dirt collector is now expressly stated with respect to the affirmatively recited collector. In addition, the function of the previously recited “moving means” has been further defined by incorporating an additional feature in accordance with a wording which was suggested by the Examiner at page 5, lines 1-2

of the Office action. This precise feature is fundamental to the unique features of the present invention and clearly defines the invention over the cited prior art.

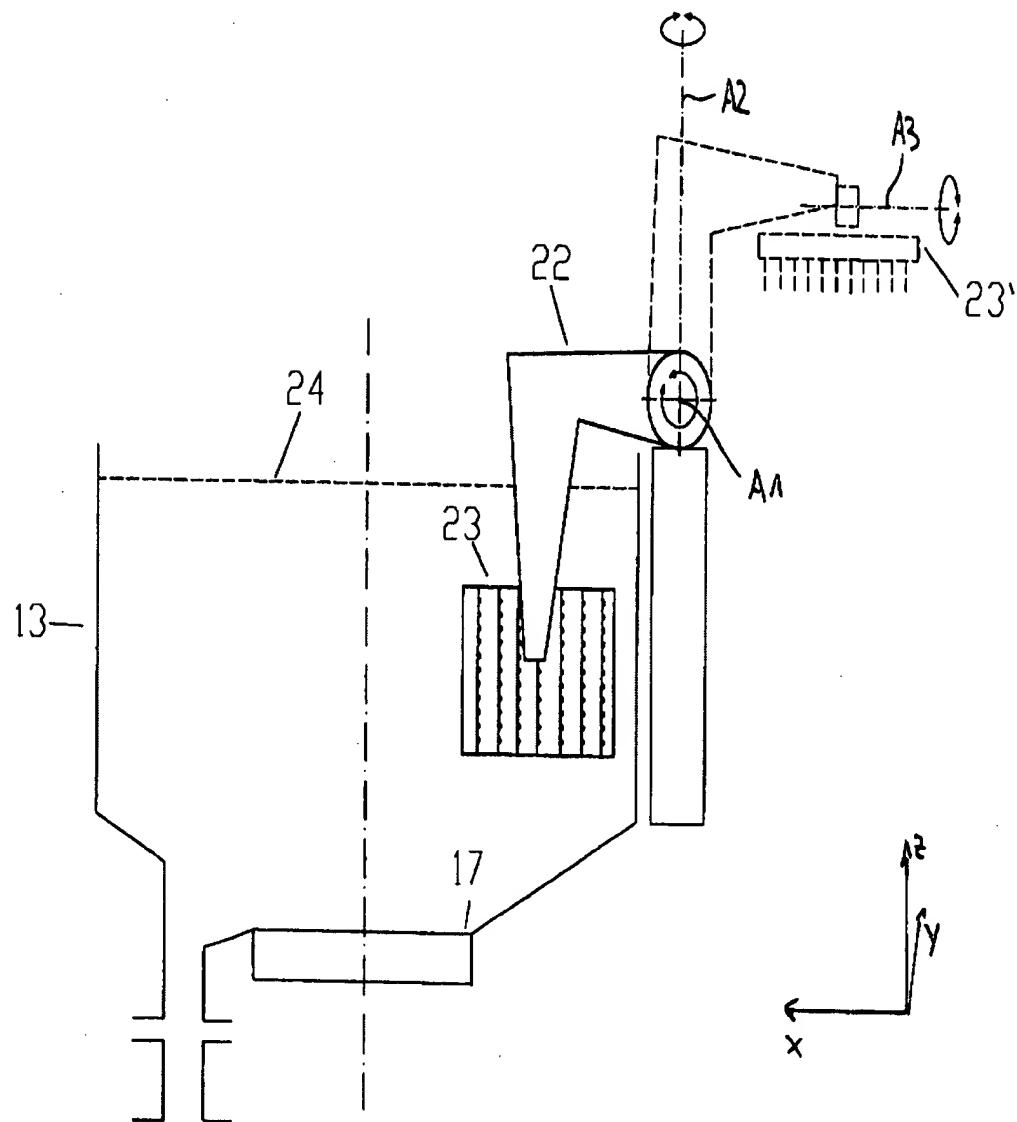
Wiljan

The basic differences between the present invention and Wiljan lie in their kinetics of the movement of the coarse dirt collector. For the collecting and removing of the coarse material inside the pulper, three moving steps must be performed by the coarse dirt collector in Wiljan. In each of these steps the movement is performed with regard to a different rotational axis. The three steps in Wiljan are as follows:

1. In the first step, the collector arm having the carrier 23 mounted on one end of the collector arm 22 swings up approximately 90° with regard to a first rotational axis A1. This rotational axis A1 is arranged in a y-direction. With this first movement the coarse dirt collector brings its carrier in a position over the rim of the pulper vessel 24.
2. In the second step the coarse dirt collector is subjected to a second rotational movement around a second axis A2, wherein the second axis A2 is arranged in a z-direction. With this second movement, the carrier swings away from a position directly above the pulper vessel 24 to a position over a dropping zone.
3. In the third step of the movement, the carrier performs a rotational movement around the third axis A3 arranged in x-direction. In this third movement the carrier is turned around the rotational axis A3 for allowing the coarse material to drop into the dropping zone.

To better illustrate this three step rotational movement of the coarse dirt collector in Wiljan, Applicant reproduces below a figure which essentially corresponds to FIG 4 in Wiljan, wherein the rotational axis A1-A3 are better illustrated and referenced. The following figure clearly illustrates the afore-mentioned three movement steps that are performed about three different rotational axis and therefore require three different independent drives.

FIG.4



In addition to the foregoing structural requirements, since the three different **rotational** movements have to be coordinated with each other, a highly sophisticated control procedure for controlling the subsequent movement steps has also to be provided. Applicant respectfully submits that this certainly needs construction of the coarse dirt collector apparatus which is more complex and more expensive than the presently claimed invention. Further, it would be understood by one skilled in the art that a movement, which includes three subsequent movement

steps, takes much more time as compared with a movement having only a single movement step. However, it also would be understood that the overall cycle time required for removing a coarse material out of the pulper vessel in a single movement would still be high, thereby leading to a lower capacity of the whole arrangement.

By contrast, in the present invention, a coarse dirt collector apparatus is provided having a coarse dirt collector which performs only one single unitary movement of the collector from its picking-up position within the pulper up to its dropping position outside the pulper and back again. Therefore, with the present invention the three step rotational movement in Wiljan is replaced by a single rotational movement around one single axis A. The basic idea with the present invention is that this single rotational axis A is angled with regard to the vertical axis P of the pulper vessel and with regard to the plane that is vertical to that axis of the pulper vessel.

In contrast to the apparatus disclosed in Wiljan the coarse dirt collector of the invention is only pivotable around the one axis A. Other features of the coarse dirt collector (like the carrier) are fixed rigidly with the coarse dirt collector.

The advantages of the present coarse dirt collector apparatus are evident:

a) The coarse dirt collector apparatus according to the present invention requires only one drive for driving the single axis A. This clearly leads to lower wear and lower costs.

b) The operation of the coarse dirt collector having only one single rotational movement can be performed at a significant higher speed compared to the three step rotational movement in Wiljan. Therefore, a significant higher capacity of dirt removement can be achieved with the present invention.

c) Additionally, the controlling of the movement in the present invention is very simple since it needs only a controlling of the forward and backward movement. There is no coordination of different movement steps to each other necessary.

To better illustrate the above mentioned differences of the present invention with regard to Wiljan, Applicant has attached exemplary Figures A and B, which essentially correspond to the respective FIG. 1 and 2 of the present application, and an additional Figure C. These figures A-C demonstrate the construction of the claimed coarse dirt collector apparatus. A comparison with the above illustrated operation from Wiljan is instructive. In figures A and B, the single unit

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movement of the coarse dirt collector referenced by 1-4 is better shown. Also, in these figures it is better illustrated that the arm 8 and the carrier 11 are rigidly stuck to each other and do not comprise any rotational axis between themselves. The only rotational axis is the axis A. In figure 2 the central impeller 2 has been displaced to avoid any misunderstanding of this construction.

On the basis of the foregoing explanation, claim 11 is not anticipated by Wiljan and should be patentable. In addition, all of the claims depending therefrom should be patentable.

Claim Rejections – 35 USC 103

Claims 11-19 and 24-29 are rejected under 35 USC 103(a) as being unpatentable over Wiljan (5,377,917). This rejection is traversed for at least the following reasons.

Applicant would submit on the basis of the foregoing analysis that none of the claims are obvious in view of the teachings of Wiljan. The conversion from three axes of rotation to only a single axis of rotation would require inventive activity for all of the reasons given above.

Claims 20-23 and 30 are rejected under 35 USC 103(a) as being unpatentable over Wiljan (5,377,917) in view of Wiljan (6,379,505). This rejection is traversed for at least the following reasons.

The Examiner admits that the pulper vessel in Wiljan '917 does not include a lid, and looks to Wiljan '505 for such teaching. However, Wiljan '505 does not remedy the deficiencies in the main reference to Wiljan '917.

New Claims

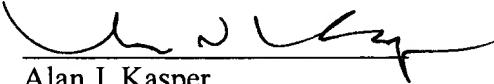
Applicant also has prepared a new claim 31, which presents the invention in different terminology, which may be more acceptable to the Examiner in defining the clearly inventive features of the coarse dirt collector apparatus.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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CUSTOMER NUMBER

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FIG. A

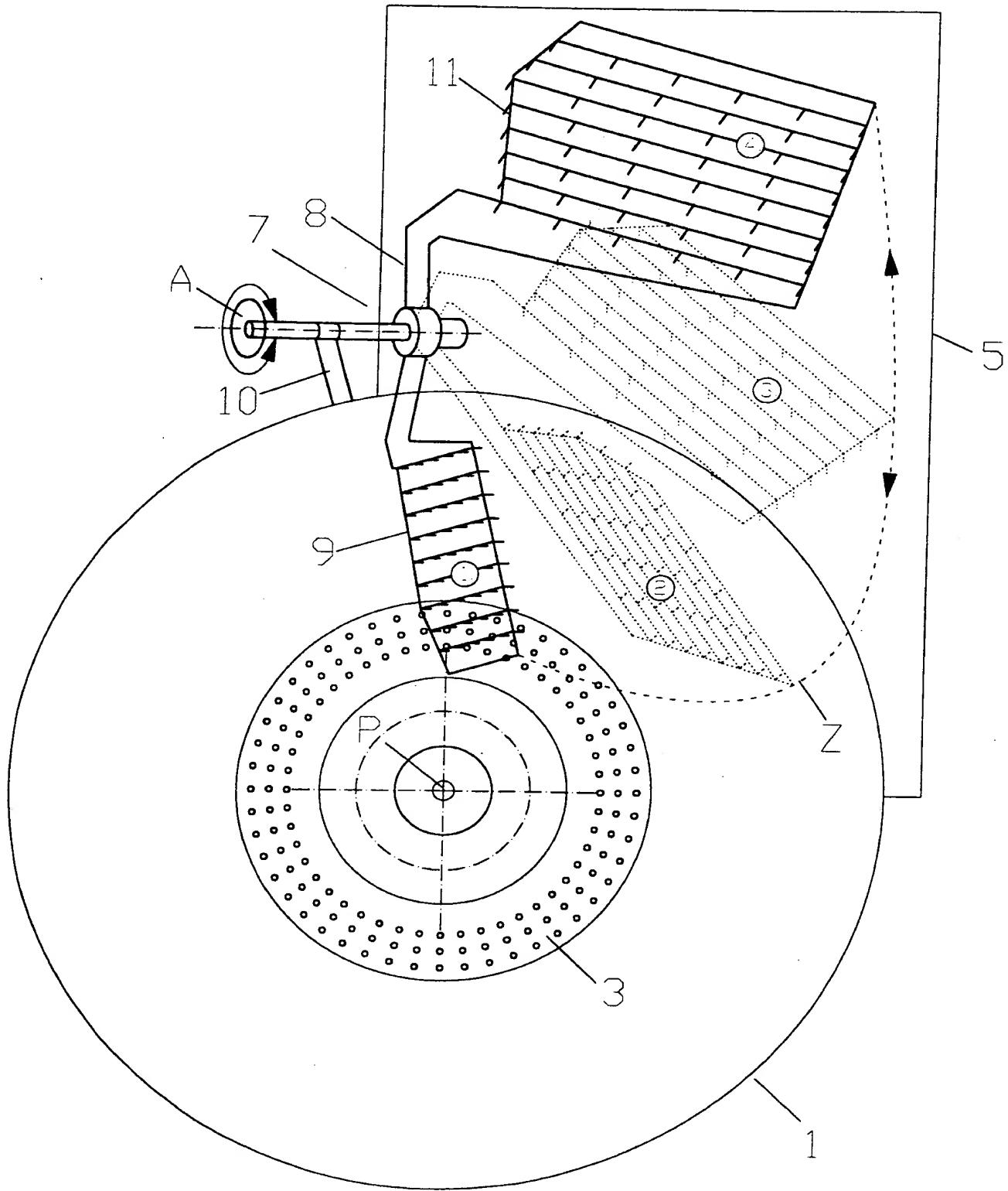
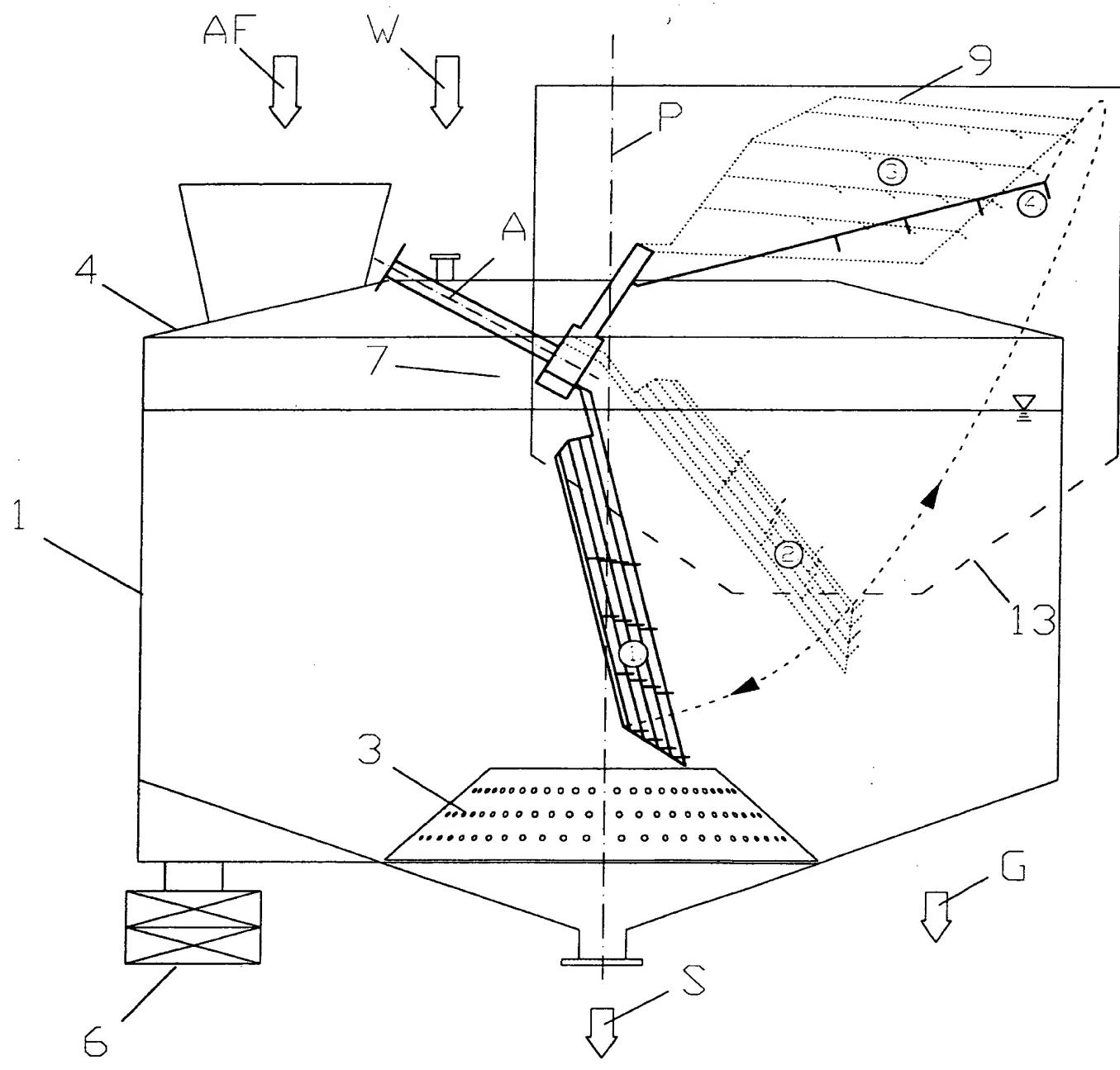




FIG. B



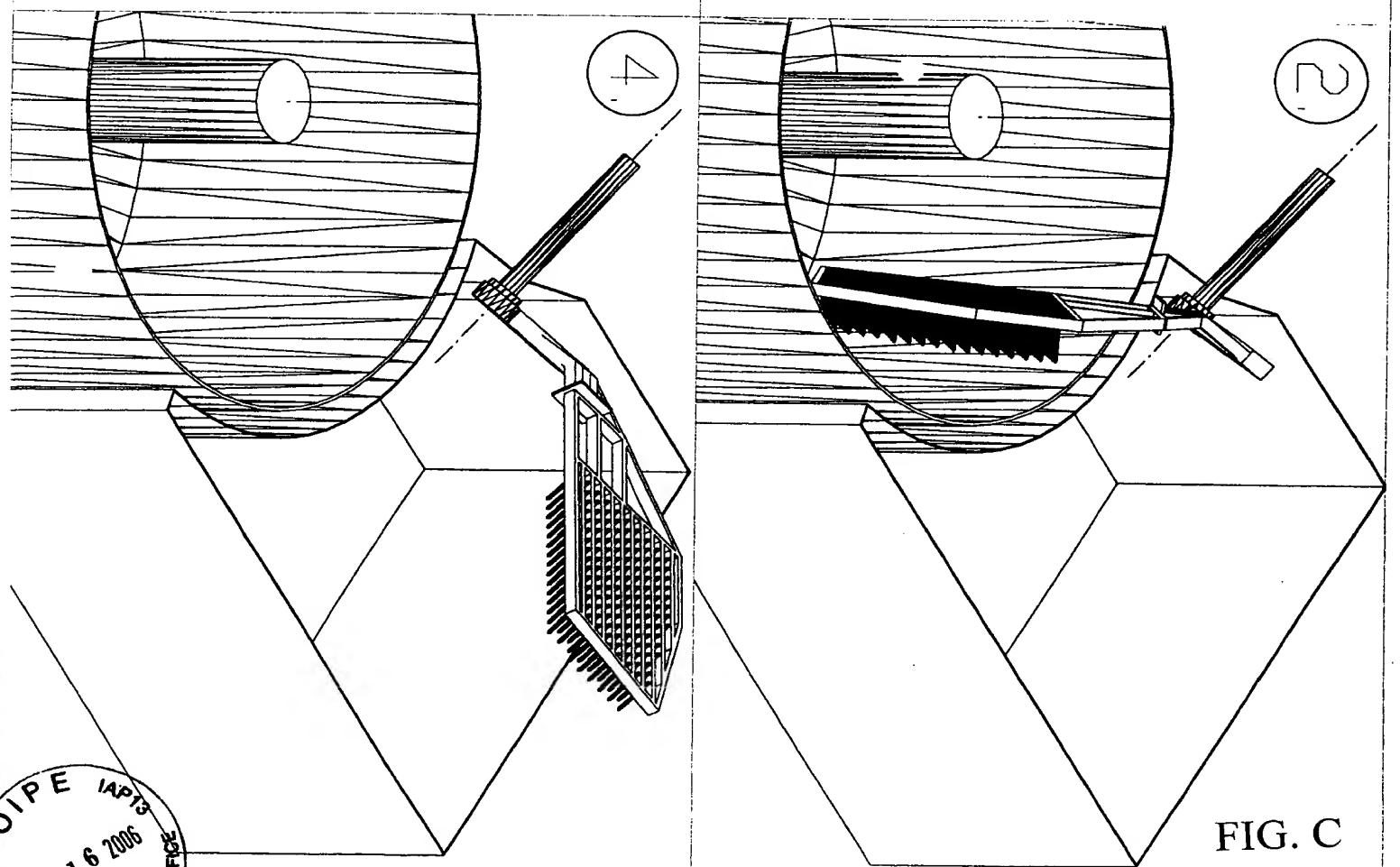
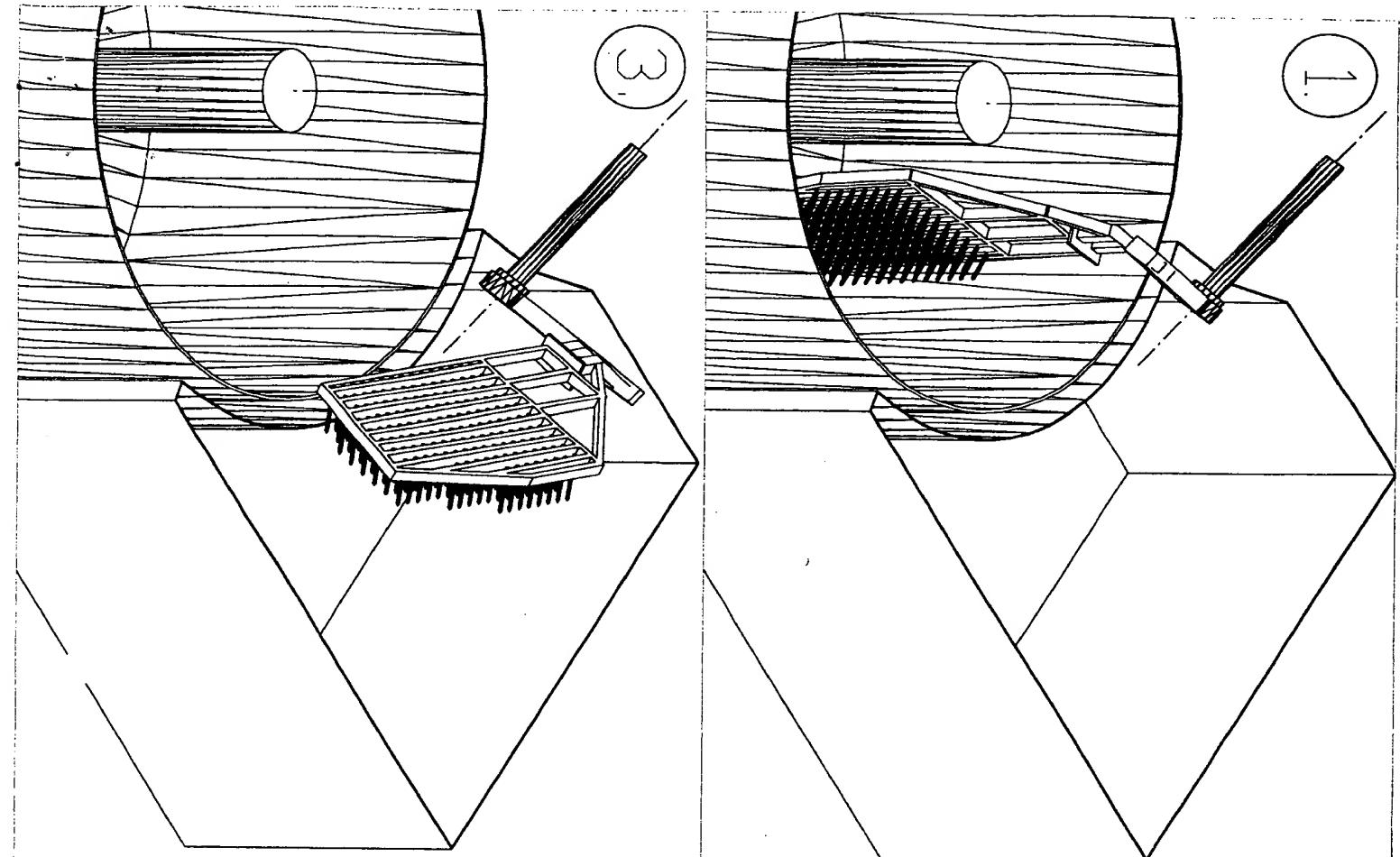


FIG. C

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